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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/785,208	02/20/2001	Masahiro Nagakura	1344.1056/JDH	3955
21171	7590	05/22/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			STEVENS, THOMAS H	
			ART UNIT	PAPER NUMBER
			2123	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/785,208	<b>Applicant(s)</b> NAGAKURA, MASAHIRO	
	<b>Examiner</b> Thomas H. Stevens	<b>Art Unit</b> 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3/3/2006 & 12/07/2005.  
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-12 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-12 were examined.

#### ***Continued Examination***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/07/2005 has been entered.

#### ***Section I: Non-Final Rejection (4<sup>th</sup> Office Action)***

##### ***Claim Interpretation***

3. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See \*also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") .... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be

removed, as much as possible, during the administrative process. The Office establishes equivalence regarding the load region and the area where various data parameters are preprocess or confined to a section of the database (Rebello: column 2, lines 47-55).

***Claim Rejections - 35 USC § 103***

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (US Patent 5,616,866) (hereafter Murakami) in view of Rebello et al., (US Patent 6,430,455) (hereafter Rebello), and further in view of Rui et al., ("A Review of

ANN-based Short-Term Load Forecasting Models”) (hereafter Rui). Murakami, Rebello and Rui are analogous art since they all teach arithmetic modeling.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the master model of Rebello and the load forecasting of Rui in the external force/temperature, with numerical analysis, of Murakami because Rebello teaches a need for a system and method that can manage the currentness of models, drawings and numerical control (NC) files in a design and manufacturing environment (Rebello: column 1, lines 55-57); Rui teaches the development of a more general ANN (artificial neural network) model to handle the STLF (short-term load forecasting) problem (Rui: pg. 4, Conclusions section, lines 8-9).

Claim 1. A computer-readable recording medium recorded with a numerical analysis program (Rebello: column 4, line 65): a master model creating function for creating a master model representing (Rebello: column 2, lines 45-50) a shape of an object, a load region data creating function for creating load region data (Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is)) for specifying a load applying (see claim interpretation) region in said master model, the load applying region being a portion of the master model to which a load will be applied, (see claim interpretation) the load being at least one of an external force and a temperature (Murakami: column 2, lines 50-52 abstract: lines 2-3), and an analytic model generating function for generating an analytic model where the load region data created by said load region data creating function is added to the

master model created by said master model creating function (Rebello: columns 2-3 lines 65-67 and 1-16 with figures 2 and 3 (element 24 in particular)).

Claim 2. A computer-readable recording medium recorded with a numerical analysis program according to claim 1, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said numerical analysis program further comprises a load attribute setting function for setting up a load attribute for the load applying region specified by said load region data, (Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is)) and said analytic model generating function, when a load attribute (Rui: pg. 2 and 3 right column, Input Variables of BP Network section, 6<sup>th</sup> paragraph and 1<sup>st</sup> paragraphs, respectively) has been set up by said load attribute setting function, generates an analytic model with the load attribute added.

Claim 3. A computer-readable recording medium recorded with a numerical analysis program according to claim 1, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating function sets up the load applying region by projecting an optional shape (Rebello: column 1, lines 10-19) surface onto the master model (Rebello: column 2, lines 45-50).

Claim 4. A computer-readable recording medium recorded with a numerical analysis program according to claim 3, Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating function designates a projection direction of the optional shape (Rebello: column 1, lines 10-19) surface with respect to said master model by a vector (Rui: figures 1 and 2 denoting vectors of various lengths and direction).

Claim 5. A numerical analysis system comprising (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) master model creating means for creating a master model representing a shape of an object, load region data (see claim interpretation) creating means for creating load region data for specifying a load applying region in said master model, the load applying region being a portion (see claim interpretation) of the master model to which a load will be applied, the load being at least one of an external force and a temperature (Murakami: column 2, lines 50-52 abstract: lines 2-3) and analytic model (Rebello: columns 1 and 2, lines 40-45 and 45-50, respectively) generating means for generating an analytic model where the load region data created by said load region data creating means is added to the master model created by said master model (Rebello: column 2, lines 45-50) creating means.

Claim 6. A numerical analysis system according to claim 5 (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said numerical analysis system further comprises load attribute setting means for setting up a load attribute for the load applying region specified by said load region data (Rui: pg. 2 and 3 right column, Input Variables of BP Network section, 6<sup>th</sup> paragraph and 1<sup>st</sup> paragraphs, respectively), and said analytic model generating means, when a load attribute has been set up by said load attribute setting means, generates an analytic model with the load attribute added.

Claim 7. A numerical analysis system according to claim 5, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating means sets up the load applying region by projecting an optional shape (Rebello: column 1, lines 10-19) surface onto the master model.

Claim 8. A numerical analysis system according to claim 7, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating means designates a projection direction (Rebello: figure 1 with column 2, lines 25-37) of the optional shape surface with respect to said master model by a vector (Rui: figures 1 and 2 denoting vectors of various lengths and direction).



Claim 9. A numerical analysis method comprising (Rebello: column 4, line 65): a master model-creating step for creating a master model representing (Rebello: column 2, lines 45-50) a shape of an object, a load region data creating step for creating load region data for specifying a load applying region in said master model, (see claim interpretation) the load applying region being a portion of the master model to which a load will be applied, the load being at least one of an external force and a temperature (Murakami: column 2, lines 50-52 abstract: lines 2-3) and an analytic model generating step for generating an analytic model where the load region data (Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is)) created by said load region data creating step is added to the master model created by said master model creating step.

Claim 10. A numerical analysis method according to claim 9, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said numerical analysis method further comprises a load attribute setting step for setting up a load attribute for the load applying region specified by said load region data (Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))), and said analytic model generating step, when a load attribute has been set up by said load attribute setting step, generates an analytic model with the load attribute added.

Claim 11. A numerical analysis method according to claim 9, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating step sets up the load applying region by projecting an optional shape (Rebello: column 1, lines 10-19) surface onto the master model.

Claim 12. A numerical analysis method according to claim 11, (Rebello: column 4, line 65; Rui: pg. 2, left column 1 paragraph with Rebello: column 2, lines 45-52 (note: examiner interprets element 24 is where the load data is))) wherein said load region data creating step designates a projection direction of the optional shape (Rebello: column 1, lines 10-19) surface with respect to said master model by a vector (Rui: figures 1 and 2 denoting vectors of various lengths and direction).

## ***Section II: Response to Applicant's Arguments (12/07/2005)***

### ***New Matter***

7. Applicant is thanked for responding to this issue. Rejection is withdrawn.

### ***103 Rejection***

8. Applicant is thanked for addressing this issue. Since the Taghavi reference has been removed from the prosecution, response to arguments based on Taghavi is moot.

Applicant rejected the motivational statement (applicants' response, pg.7, 2<sup>nd</sup> paragraph and 3<sup>rd</sup> paragraphs) by Rui is improper while referring MPEP 2241.01(a).

The Office refutes the argument as an opinion since the motivation does address

expectation of success (i.e., to solve problems). To add, the Office is unclear to applicants referencing MPEP 2241.01(a)-- Reexaminations (time for deciding request).

Applicant argues the lack of teaching the adding of any data to a master model by Rebello (page 8, 1<sup>st</sup> paragraph). Rebello does state the master model's susceptibility to data change or the addition of new data (Rebello: column 4, lines 44-46).

Applicant argues that none of the references teach "a load applying region in a master model" (applicants' arguments, pg. 8, paragraph 8). The Office establishes equivalence regarding the load region and the area where various data parameters are preprocess or confined to a section of the database (Rebello: column 2, lines 47-55).

9. Applicant's arguments, see pages 6-9, filed 12/07/2005, with respect to the rejection of claims 1-12 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Murakami, Rebello and Rui.

#### ***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

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If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

May 6, 2006

TS

  
Paul L. Rodriguez 5/12/06  
Primary Examiner  
Art Unit 2123